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Empathy, or the immediate emotional apprehension of the affective experience of another person, plays an important role in the developmental acquisition of a first language. It is hypothesized that a capacity for empathy contributes to the mastery of the pronunciation of a second language. An operational redefinition of empathic skill as the ability of an individual to perceive and respond to minimal cues in interpersonal interaction has led to the development of an objective measuring instrument. Subjects inspect a human face presented on a film segment that can be projected at varying speeds. Subjects' key-press responses are scored both for overall sensitivity to changes and for accuracy. To illustrate the use of this test, the design of a current research project is described: empathy test scores are being compared with ratings of pronunciation authenticity and at the same time with scores on the Thematic Apperception Test pictures as well as on tests of intelligence, visual acuity, ability to detect changes in complex patterns, and categorizing style. Incomplete results tend to confirm the hypothesized relation of empathy to second-language pronunciation authenticity. Results strengthen the case for applying clinical concepts to experimental research. (See related document ED 017 898.) (Author/DO)

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THE ROLE OF EMPATHY IN SECOND LANGUAGE BEHAVIOR[1, 2]

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Empathy, or the immediate emotional apprehension of the affective experience of another person, plays an important role in the developmental acquisition of a first language. It is hypothesized that a capacity for empathy contributes to the mastery of the pronunciation of a second language. An operational redefinition of empathic skill as the ability of an individual to perceive and respond to minimal cues in interpersonal interaction has led to the development of an objective measuring instrument. Ss inspect a human face presented on a film segment that can be projected at varying speeds. Ss' key-press responses to changes in facial expression are scored both for overall sensitivity to changes and for accuracy. To illustrate the use of this test, the design of a current research project is described: empathy test scores are being compared with ratings of pronunciation authenticity and at the same time with scores on TAT pictures as well as on tests of intelligence, visual acuity, ability to detect changes in complex patterns, and categorizing style. Incomplete results tend to confirm the hypothesized relation of empathy to second-language pronunciation authenticity. Results strengthen the case for applying clinical concepts to experimental research.

Common observation, as well as more sophisticated consideration, indicates that authenticity of pronunciation of a second language varies widely among learners and speakers of the acquired language, even when such persons are relatively similar in intelligence, background, language aptitude and training, discriminative capacities, or other language proficiency variables.

Efforts to understand the basis for differences in pronunciation authenticity have usually focused on linguistic, behavioral, or anatomic variables which lend themselves to rigorous laboratory measurement. These efforts have remained largely vain. The role of psychological factors, characteristically less amenable to precise measurement and control, has been relatively ignored.

Language behavior is, however, a unique and complex attribute of man, not only in the evolutionary sense but also in the developmental history of each individual. Language behavior arises and evolves within the context of more general psychological growth. It is reasonable to speculate that even certain structural aspects of language are in part shaped by and express the broader personality context from which they have emerged. Guiora (1967a) has suggested that certain personality characteristics may play a significant role in a

learner's ability to acquire authenticity of pronunciation in a second language. Undoubtedly, many variables enter into pronunciation authenticity and it is unlikely that any single identifiable attribute will suffice to comprehend or explain the problem under consideration. What is needed is both systematic investigation of many variables and intensive study of single ones that seem particularly promising. One such personality variable currently under study by our group at the Center for Research on Language and Language Behavior of the University of Michigan is that of empathic capacity.

The concept of empathy, though important to psychologists' theoretical and clinical concerns, has resisted precise consensual definition. Guiora (1965) defines empathy as "... a process of comprehending in which a temporary fusion of self/object boundaries, as in the earliest pattern of object relations, permits an immediate emotional apprehension of the affective experience of the other, this sensing being used by the cognitive functions to gain understanding of the other." Most definitions of empathy also refer to an internal process which sensitizes one person toward the affective state of another by means of some subjective, inner awareness of the other person's experience (Fliess, 1942; Fromm-Reichmann, 1950; Schafer, 1959).

But by what rationale can empathic capacity be viewed as a contributory factor in the mastery of authenticity of language pronunciation? It is necessary to consider the essential predeterminants of both types of expression. In the earliest mother-child relationship, prior to stable establishment of separate self-boundaries by the infant, the primary pattern of interaction is based on affective fusion. Diffuseness of self-boundaries sensitizes the infant to changes in the quality and intensity of emotional states in those close to him (Sullivan, 1947). This sensitivity to expressive changes appears to be the prerequisite of empathic skill, a skill whose further development is dependent upon the quality of continuing interpersonal experiences during the developmental process. The sensitivity and empathic capacity existing in the affective relation to the mother may well be the vehicle through which original pronunciation authenticity is acquired and, by extension, may enhance the conditions favorable to later novel inclusions pertinent to second language authenticity. There is evidence that authentic reproduction of fragments of intonation contours begins to develop as early as in the fourth month of life (Tonkova-Yampolskaya, 1966).

Very young infants have been shown to be highly responsive in modifying their behavior, including vocalization, in reaction to changes in interpersonal stimulation. Such stimulus patterns as smiling, body contact, and the voice of the mother can act as reinforcers in shaping infant behavior (Rheingold, Gewirtz, & Ross, 1959). The affective interaction with the mother is a kind of reinforcement matrix within which the child learns the sounds of his language (Mowrer, 1960). A survey of research on the effects of early environment on oral language development, reported by May (1960), points to the importance of a close and emotionally positive mother-infant relationship for the child's ability to assimilate correct speech habits and to speak accurately.

The difficulty of translating such a concept as empathy into the empirical requirements of laboratory research is obvious. One can, however, deal more rigorously with certain assumed behavioral correlates of empathic capacity, such as the ability of an individual to be responsive to minimal cues in interpersonal interaction. That is, individual differences in the threshold level for perception of slight meaningful cues in others, such as in voice, speech patterns, or body and facial expressions, may reflect differences in empathic capacity. This operational definition of empathic skill permitted the elaboration of a measurement technique to explore individual threshold differences in sensitivity to changes in facial expressions, in order to relate such differences to obtained measures of pronunciation authenticity.

The starting point for the empathy measure was a finding by Haggard and Isaacs (1966) that observers viewing film strips of psychotherapy sessions shown at reduced speeds perceived changes in facial expression undiscernible at regular speeds. Sensitivity to these transitory facial changes, termed micro-momentary expressions, shows wide individual differences. Since perception of minimal cues in interpersonal interaction is an important component of empathy, and empathic capacity is hypothesized to be a factor in pronunciation authenticity, sensitivity to micro-momentary expressions should correlate with measures of authenticity. This prediction was tested in a pilot study by Guiora, Lane, and Bosworth (1967b) in which scores for these two types of behavior were compared for 14 native American high school teachers of French who were relatively homogeneous with respect to proficiency in the French language. A rank order

correlation of 0.6 was found between scores for perception of facial change and ratings of pronunciation authenticity, a relationship which encouraged further research in order to refine and extend the measurement procedures and theoretical context relevant to the problem.

For the purpose of this paper detailed discussion of ongoing work is not feasible, but one pertinent replication study can be briefly described. In a study just completed at the Center for Research on Language and Language Behavior Ss were 30 University of Michigan undergraduate students who had received instruction in pronunciation of Japanese by a native-born Japanese instructor in the Department of Linguistics. Ten segments of speech taken from learned basic dialogues and sentence patterns were tape-recorded, each subject presenting the same verbal material. Five of these segments were immediate repetitions of the teacher's verbalizations and five were standard learned responses elicited in conversation with the teacher. These recorded passages were rated by native-speaker judges for general authenticity of pronunciation and authenticity of certain linguistically significant features of pronunciation. For the present purpose, pronunciation authenticity must be distinguished from various other components of language skill, such as phonological accuracy, richness of vocabulary, appropriateness of style, and control of idioms. Utterances from two speakers which are identical in all these respects may nevertheless be judged by native-speaker judges to vary in their approximation to native-like pronunciation.

The primary empathy measure in this study consisted of a 720-frame film segment of the face of a woman during a psychotherapy interview, shown at speeds ranging from a normal one of 24 frames per sec. down to 4 frames per sec. Ss indicated recognition of changes in facial expression by pressing a response key geared to an Angus-Esterline chronograph which recorded the response and located it in the sequence of the picture frames. Location of the response provides an index of accuracy, in that previous judgment of the sequential photographs making up the film produced 50 points at which there was significant agreement among judges that a change in facial expression occurred. Thus, each S received scores both for overall sensitivity to changes and for the relative accuracy of his response.

In addition to the micro-momentary expression measurement and authenticity ratings, the research design included other exploratory and control measures intended to clarify the hypothesized empathy-authenticity relationship. For example, empathy scores were compared with a more general measure of sensitivity to emotional nuances in interpersonal situations, as expressed in Ss' responses to Thematic Apperception Test pictures. The stories given to the test pictures were scored by a system, initially devised by Dymond (1948), which reflects a person's awareness of and concern for the feelings of others. And in order to explore the role of certain other possible associated variables, either independent of empathic skill or partially related to it, Ss were also measured on tests of intelligence, visual acuity, ability to detect changes in complex non-meaningful perceptual patterns, and categorizing style.

Since the data from this study have not yet been completely analyzed, it would be premature to draw specific conclusions at this time. However, preliminary findings are tending to confirm the hypothesized empathy-authenticity association. Such confirmation opens up the possibility of developing, through further refinement of the techniques discussed, a predictive measure of success in the acquisition of pronunciation authenticity in second-language learning. More importantly, and beyond the specific focus of investigation touched upon in this paper, the program of research here outlined confirms the heuristic value of systematic empirical exploration of personality variables in language behavior. The operationalizing and testing of clinical psychological concepts in the language laboratory can provide the psychological and linguistic disciplines with mutually beneficial insights and understanding. To be sure, the potentiality for any such reciprocity arises not from any research strategy per se but from the essential unity of the processes underlying man's astonishing variety of experience and behavior.

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Footnotes

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